

Harrisburg School District
Acquisition Lesson Planning Form
Plan for the Concept, Topic, or Skill ---Not for the Day

Unit Essential Question:

- A) What are variables and variable expressions and how do we use them?
 B) How do we perform operations with integers?
 C) How do we graph point in the coordinate plane?
 D) How do we solve a problem by looking for a pattern?

Activating Strategies:

Please see below for specific "Do Now" Questions or Activities. Students will be asked to complete a "Do Now" at the beginning of each class period.

Acceleration/Previewing:

Absolute Value, Conjecture, Coordinate Plane, Counterexample, Evaluate, Inductive Reasoning, Integers, Opposites, Order of Operations, Ordered Pair, Origin, Quadrants, Variable, Variable Expression, X-axis, X-coordinate, Y-axis, Y-coordinate

Words will be introduced using Hangman at the beginning of each new lesson and will also be displayed on our chapter 1 word wall!

Teaching Strategies:

Please see below for specific strategies used with each lesson. The following is a list of possible strategies:

Collaborative Pairs	Summary Point Writing
Guided Note-Taking	Mnemonic Strategies
Guided Practice	Graphic Organizers
Student Led Activities (student as teacher)	Simulations
Review using mini whiteboards	Examples
Word Wall	Writing Prompts (PSSA style)
PSSA style practice problems	Demonstrations/Modeling

Distributed Guided Practice/Summarizing Prompts:

Please see below for specific practice and summarizing strategies for each lesson. The following is a list of possible strategies:

Summarizing Verbally	Numbered Heads
Examples	Think, Pair, Share
Journal Entries	3, 2, 1
Homework	
Student-Led Learning Activities	
Graphic Organizers	

Summarizing Strategies:

Please see below for specific summarizing strategies used to answer the essential question for each lesson. The following is a list of possible strategies:

Ticket out the door – 3, 2, 1
 Numbered Heads – Partner work
 Learning Logs (journaling)
 Constant Review of Strategies Learned (verbally and/or written)
 Think, Pair, Share

2

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Topic: Algebraic Expressions And Integers

Subject(s): Pre-Algebra, Chapter 1
Grade(s): 7th Grade

Key Learning(s):

Absolute Value, Conjecture, Coordinate Plane, Counterexample, Evaluate, Inductive Reasoning, Integers, Opposites, Order of Operations, Ordered Pair, Origin, Quadrants, Variable, Variable Expression, X-axis, X-coordinate, Y-axis, Y-coordinate

PA Standards:

- M7.C.2.1.1 Plot and/or identify ordered pairs on a coordinate plane (all 4 quadrants)
M7.C.2.1.2 Identify quadrants I, II, III, and IV, the x- and y-axes and the origin on a coordinate plane
M7.A.2.1.1 Use the order of operations to simplify numerical expressions (may use parenthesis, brackets, +, -, *, /, squares up to 102, and cubes up to 43 – whole numbers only)
M7.A.1.2.2 Compare and/or order integers (no more than 5 numbers in a set to be ordered)
M7.A.1.2.3 Locate/Identify decimals, fractions, mixed numbers and/or integers on a number line (a mix of these number forms may be on the same number line)
M7.A.3.2.2 Solve problems involving addition and subtraction of integers
M7.A.3.2.2 Solve problems involving addition and subtraction of integers
M7.D.1.1.1 Describe, extend, or find a missing element of a pattern (show 3 repetitions of the pattern)
• Fractions or Decimals – may use only one operations from +, -, *
• Whole numbers – may use only one operation from +, -, *, / or squares
M7.D.1.1.1 Describe, extend, or find a missing element of a pattern (show 3 repetitions of the pattern)
• Fractions or Decimals – may use only one operations from +, -, *
• Whole numbers – may use only one operation from +, -, *, / or squares
M7.A.3.2.1 Solve problems involving integers (+, -, *, /) of whole numbers, decimals, fractions, or mixed numbers (straight computation or word problems)

Optional Instructional Tools:

- *Prentice Hall Pre-Algebra Text
- *MathScapes Text/Handbook
- *Grab and Go Files – Chapter 1
- *Student Workbook
- *Skills Review and Practice

Unit Essential Question:

- A) How do we use variables and variable expressions?
- B) How do we perform operations with integers?
- C) How do we graph point in the coordinate plane?
- D) How do we solve a problem by looking for a pattern?

Concept:

Variables and Variable Expressions

Lesson 1-1

Pages 4-7

LEQ:

How do we identify variables, numerical expressions, and variable expressions?
How do we write variable expressions for word phrases?

Activating Strategies:

Do Now: Fill in the missing numbers:

1. 1 week = ___ days
2. 1 foot = ___ inches
3. 1 nickel = ___ cents
4. 1 gallon = ___ quarts
5. 1 yard = ___ feet

GRAPHIC

ORGANIZER

MATHEMATICAL OPERATIONS

Teaching Strategies:

GRAPHIC ORGANIZER (VERTICAL FLOW CHART)

Guided Note-Taking, Modeling, Examples, Guided Practice

Distributed Guided Practice/Summarizing Strategies:

Summarizing Verbally, Examples, Numbered Heads, Homework (Practice Worksheet 1-3)

Summarizing Strategies:

Ticket Out The Door: What do the letters in PEMDAS stand for?

Concept:

Absolute Value

Lesson 1-4

Pages 18-23

LEQ:

How do we represent, graph, and order integers?

How do we find opposites and absolute values?

Activating Strategies:

Do Now: Write an integer for each situation:

1. lose 7 dollars
2. find 9 dollars
3. 8 steps forward
4. 3 yards gained
5. 5 floors down

Acceleration/Previewing (Vocab):

Integers, opposites, Absolute Value

Teaching Strategies:

GRAPHIC ORGANIZER (NUMBER LINE)

Guided Note-Taking, Modeling, Examples, Guided Practice

Distributed Guided Practice/Summarizing Strategies:

Summarizing Verbally, Examples, Quick Trivia, Numbered Heads, Homework (Practice Worksheet 1-4)

Summarizing Strategies:

Ticket Out The Door: What is the opposite of the absolute value of negative seven?

ASSESSMENT CIRCLE POINT QUIZ Pg 35 TOP

Concept:

Adding Integers

Lesson 1-5

Pages 24-29

LEQ:

How do we add integers?

Activating Strategies:Do Now: Compare using $>$, $<$, or $=$:

1. -6 $\underline{\hspace{1cm}}$ -3
2. 2 $\underline{\hspace{1cm}}$ -15
3. -5 $\underline{\hspace{1cm}}$ $|5|$
4. $|10|$ $\underline{\hspace{1cm}}$ $|-10|$
5. $|9|$ $\underline{\hspace{1cm}}$ $|-2|$

Acceleration/Previewing (Vocab):

Integer

Teaching Strategies:

90 MINUTES - ACTIVITY LAB Pg 23 & SMALL GROUPS MANIPULATIVES

Guided Note-Taking, Number-line Activity, Modeling, Examples, Guided Practice

Distributed Guided Practice/Summarizing Strategies:

Summarizing Verbally, Examples, Homework (Practice Worksheet 1-5)

Acceleration/Previewing (Vocab):

Variable, Variable Expressions

GRAPHIC ORGANIZER 1A Page 255

Teaching Strategies:

Guided Note-Taking, Modeling, Examples, Guided Practice, Collaborative Pairs

Distributed Guided Practice/Summarizing Strategies:

Summarizing Verbally, Examples, Homework (Practice Worksheet 1-1), Think/Pair/Share, Numbered Heads

Summarizing Strategies:

Ticket Out The Door: 3/2/1 – Write 3 variables, 2 numerical expressions, and 1 variable expression

Concept:

Order of Operations

Lesson 1-2

Pages 8-13

LEQ:

How do we use the order of operations?

How do we use grouping symbols?

Activating Strategies:

Do Now: Find each quotient:

1. $164 \div 2$
2. $284 \div 4$
3. $344 \div 8$
4. $133 \div 7$
5. $650 \div 25$

Acceleration/Previewing (Vocab):

Order of Operations, Simplify

Teaching Strategies: GRAPHIC ORGANIZER 8

Guided Note-Taking, Modeling, Examples, Guided Practice, Collaborative Pairs, Student as Teacher

Distributed Guided Practice/Summarizing Strategies:

Examples, Summarizing Verbally, Think/Pair/Share, Homework (Practice Worksheet 1-2)

Summarizing Strategies:

Ticket Out The Door: Insert grouping symbols to make this sentence true:

$$7 + 4 * 6 = 66$$

Concept:

Evaluating Expressions

Lesson 1-3

Pages 14-17

LEQ:

How do we evaluate variable expressions?

How do we solve problems by evaluating expressions?

Activating Strategies:

Do Now: Simplify each expression:

1. $6(9 + 1)$
2. $17 - 2 + 3$
3. $9 + 8 * 2 + 4$
4. $[3(5) + 1] * 2$
5. $1 * 14 + 6$

Acceleration/Previewing (Vocab):

Evaluate, Expression

Summarizing Strategies:

Ticket Out The Door: Find the sum:

$$-20 + (-89) + 112 + 9$$

Concept:

Subtracting Integers

Lesson 1-6

Pages 30-34

LEQ:

How do we subtract integers?

Activating Strategies:

Do Now: Find each sum:

1. $8 + (-9)$
2. $-11 + (-18)$
3. $-4 + (-6)$
4. $14 + (-3)$
5. $6 + (-6)$

Acceleration/Previewing (Vocab):

Integer

Teaching Strategies: SAME AS 1-5

Guided Note-Taking, Modeling, Examples, Collaborative Pairs, Guided Practice

Distributed Guided Practice/Summarizing Strategies:

Summarizing Verbally, Examples, Homework (Practice Worksheet 1-6)

Summarizing Strategies:

Ticket Out The Door: Find the difference:

$$810 - 30 - (-70)$$

Concept:

Conjectures

Lesson 1-7

Pages 35-39

LEQ:

How do we write rules for patterns?

How do we make predictions and test conjectures?

Activating Strategies:

Do Now: Find each difference:

1. $-3 - 4$
2. $-7 - 4$
3. $12 - (-2)$
4. $-11 - 4$
5. $3 - (-9)$

MATCHING GAME

PATTERNS Pg 20 MATHEMATICS

HIL / TARA MAKE THIS

Acceleration/Previewing (Vocab):

Inductive Reasoning, Conjecture, Counterexample

Teaching Strategies:

Guided Note-Taking, Modeling, Examples, Guided Practice, Collaborative Pairs

Distributed Guided Practice/Summarizing Strategies:

Summarizing Verbally, Examples, Numbered Heads, Homework (Practice Worksheet 1-7)

Summarizing Strategies:

Ticket Out The Door: Mario caught a cold on each of his last 3 visits with his cousin. Is it reasonable for Mario to conclude that his catching a cold is the result of visit his cousin? Explain!

Concept: Patterns Lesson 1-8 Pages 40-43
LEQ: How do we find number patterns?
Activating Strategies: Do Now: Write a rule for each pattern and find the next 3 numbers for each: <ol style="list-style-type: none"> 8, 11, 14, 17, ... 1, 5, 4, 8, 7, ... 3, 5, 10, 12, 24, ... 1, 4, 7, 10, ... 10, 8, 6, 4, ...
Acceleration/Previewing (Vocab): Pattern
Teaching Strategies: Guided Note-Taking, Modeling, Examples, Guided Practice, Collaborative Pairs
Distributed Guided Practice/Summarizing Strategies: Summarizing Verbally, Examples, Collaborative Pair work, Homework (Practice Worksheet 1-8)
Summarizing Strategies: Ticket Out The Door: A woman jogging at 6 mi/h passes a man biking at 12 mi/h in the opposite direction. If they maintain speeds, how far from each other will they be 10 minutes after passing?

Concept: Multiplying and Dividing Integers Lesson 1-9 Pages 44-51
LEQ: How do we multiply and divide integers?
Activating Strategies: Do Now: Simplify each expression: <ol style="list-style-type: none"> $5 * 4$ $3 * 8$ $6 * 5$ $20 * 7$ $14 * 2$
Acceleration/Previewing (Vocab): Integer
Teaching Strategies: Guided Note-Taking, Modeling, Examples, Guided Practice, "Lovers and Haters", Partner Work
Distributed Guided Practice/Summarizing Strategies: Summarizing Verbally, Examples, Numbered Heads, Homework (Practice Worksheet 1-9)
Summarizing Strategies: Ticket Out The Door: Compare using $<$, $>$, or $=$: $-10 / (-2)$ $25 / (-5)$

ASSESSMENT: CHECK POINT QUIZ PG 35 BOTTOM

Concept:

Coordinate Plane

Lesson 1-10

Pages 52-58

LEQ:

How do we name coordinates and quadrants in the coordinate plane?

How do we graph points in the coordinate plane?

Activating Strategies:

Do Now: Graph the numbers on a number line:

1. -2, 1, -5
2. 0, 2, -4
3. -3, 3, -2
4. -1, -5, -8
5. 4, -3, 2

Acceleration/Previewing (Vocab):

Coordinate Plane, Ordered Pair, Quadrants, X-axis, X-coordinate, Y-axis, Y-coordinate

Teaching Strategies: 10 GRAPHIC ORGANIZER

Guided Note-Taking, Modeling, Examples, Guided Practice, Graphing Activity, Collaborative Pairs

Distributed Guided Practice/Summarizing Strategies:

Summarizing Verbally, Examples, Homework (Practice Worksheet 1-10)

Summarizing Strategies:

Ticket Out The Door: Graph the following ordered pairs on a coordinate plane:

A(-5, -2), B(7, 0), C(0, -4), D(-3, 4), E(1, 7), and F(1, -3)

Concept:

CHAPTER 1 REVIEW

Lessons 1-1 through 1-10

Pages 59-66, as well as pages 4-58

LEQ:

- A) What are variables and variable expressions and how do we use them?
- B) How do we perform operations with integers?
- C) How do we graph point in the coordinate plane?
- D) How do we solve a problem by looking for a pattern?

Activating Strategies:

Do Now: Review Chapter 1 vocab using matching game.

Acceleration/Previewing (Vocab):

Absolute Value, Conjecture, Coordinate Plane, Counterexample, Evaluate, Inductive Reasoning, Integers, Opposites, Order of Operations, Ordered Pair, Origin, Quadrants, Variable, Variable Expression, X-axis, X-coordinate, Y-axis, Y-coordinate

10 PAGES 258

Teaching Strategies:

GRAPHIC ORGANIZER IF PAGE 361

Insert specific teaching strategies here...

Distributed Guided Practice/Summarizing Strategies:

Insert specific distributed practice/summarizing here...

Summarizing Strategies:

Insert specific summarizing strategies here...

OTHER: ACCELERATION + EXTENSION: CHAPTER 1 PROJECT

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